

We claim:

Sub A> 1. A corrugated pipe connection joint structure for joining two sections of corrugated pipe comprising:

opposing bell-formed ends,

5 a connector insert defining opposing ends and a push-ring;

at least one gasket positioned on at least one of said opposing ends of said connector insert;

wherein said opposing ends of said connector insert are positioned in said bell-formed ends, with said corresponding at least one gasket forming a seal therebetween.

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Sub C> 2. The corrugated pipe connection joint structure of claim 1, wherein said opposing ends of said connector insert are substantially equal in length to the length of said opposing bell-formed ends.

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3. The corrugated pipe connection joint structure of claim 1, wherein said connector insert further comprises:

at least one flange having a diameter D_s proximate to said at least one gasket.

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4. The corrugated pipe connection joint structure of claim 1, wherein said push-ring has a thickness of at least 0.25 inches.

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5. The corrugated pipe connection joint structure of claim 1, further comprising at least one gasket positioned on each of said opposing ends of said connector insert.

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6. The corrugated pipe connection joint structure of claim 1, wherein said seal is a watertight seal.

7. The corrugated pipe connection joint structure of claim 1, wherein said two sections of corrugated pipe have an outer diameter of D_y and an inner diameter of D_i and said opposing bell-formed ends have an outer diameter of D_o and an inner diameter of D_b .

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8. The corrugated pipe connection joint structure of claim 7, wherein said push-ring of said connector insert has an outer diameter substantially equal to D_o .

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9. The corrugated pipe connection joint structure of claim 7, wherein said at least one gasket has an outer diameter greater than D_b .

Sub A4> 10. A corrugated pipe connector insert comprising:

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a pair of opposing ends;
at least one gasket positioned on at least one of said opposing ends having an outer diameter greater than said outer diameter of said opposing ends; and

a push-ring disposed between said opposing ends having an outer diameter substantially equal to an outer diameter of said bell formed ends.

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11. The corrugated pipe connector insert of claim 10, wherein said push-ring has a thickness of at least 0.25 inches.

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12. The corrugated pipe connector insert of claim 10, further comprising:

at least one flange having a diameter D_s proximate to said at least one gasket.

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13. The corrugated pipe connector insert of claim 10, further comprising at least one gasket positioned on each of said opposing ends of said connector insert.

Sub as 7 14. The corrugated pipe connector insert of claim 11, wherein said push-ring has a diameter of no more than approximately one inch greater than
65 D_s .

15. The corrugated pipe connector insert of claim 13, further comprising at least one channel formed between adjacent flanges, said at least one gasket being positioned in at least one channel.

70 16. The corrugated pipe connector insert of claim 10, further comprising at least one groove formed on said insert, said at least one gasket being positioned in said at least one groove.

Sub as 8 17. A method for joining two corrugated pipe sections comprising the steps of:

75 bell-forming at least one end of a first corrugated pipe section and at least one end of a second corrugated pipe section;

reducing an amount of corrugations at said bell-formed ends of said first and second corrugated pipe sections;

80 inserting a connector insert having a first end and a second end adapted to fit within said first and second bell-formed ends of said corrugated pipe sections into said first bell-formed end of said corrugated pipe section; and inserting said second bell-formed corrugated pipe section over said second end of said connector insert.

85 18. The method for joining two corrugated pipe sections of claim 15, wherein said reducing step further comprises reducing said corrugations in height.

90 19. The method for joining two corrugated pipe sections of claim 15, wherein said bell-forming step further comprises heating said at least one end of said first and said second ends of corrugated pipe section and molding said first and second ends of corrugated pipe section.